

Appln. No. 09/744,654
Amd. dated May 16, 2205
Reply to Office Action of November 29, 2004

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-122 (Cancelled).

123 (Currently amended). A method[[,]] for the preparation of a cell composition consisting essentially of human hematopoietic CD38^{-/low} CXCR4⁺ stem cells capable of migrating in response to stromal-derived factor 1 (SDF-1), said hematopoietic CD38^{-/low} CXCR4⁺ stem cells ~~being selected from the group consisting of stem cells that express CXCR4 on the cell surface, CXCR4^{-/low} stem cells that have the potential to express CXCR4 on the cell surface and are converted to CXCR4⁺ cells upon stimulation with a suitable agent, and combinations thereof, and wherein said hematopoietic CD38^{-/low} CXCR4⁺ stem cells have~~ having the capacity of migrating to, and of engraftment and repopulation of, the bone marrow in a host, ~~said method comprising stimulating with a suitable agent a cell composition comprising hematopoietic CD38^{-low} CXCR4⁺ and CD38^{-/low} CXCR4^{-/low} stem cells that have the potential to express CXCR4 on the cell surface, and wherein the~~ wherein CD38^{-/low} CXCR4^{-/low} stem cells are stimulated for up to five days with a [[the]] suitable agent ~~which is~~ capable of converting CD38^{-/low} CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, thus converting the CD38^{-/low} CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, and ~~sorting out those CD38^{-low} CXCR4⁺ stem cells that migrate in response to SDF-1,~~ wherein said suitable agent is selected from the group consisting of a lectin, a cytokine, at least one type of mammalian stromal cells, and mixtures thereof, said cytokines

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and stromal cells being cytokines and stromal cells involved in a process of maintenance, expansion, development, or combinations thereof, of stem cells, and sorting out those CD38^{-/low} CXCR4⁺ stem cells that migrate in response to SDF-1.

124 (Currently amended). The method according to claim 123, wherein the CD38^{-/low} CXCR4^{-/low} stem cells are stimulated with [[the]] said suitable agent for 1-2 days.

125 (Currently amended). A method for increasing the population of hematopoietic CXCR4⁺ stem cells for use in clinical transplantation, which comprises up-regulating surface CXCR4 expression of hematopoietic stem cells and sorting out those CXCR4⁺ stem cells that migrate in response to stromal-derived factor (SDF-1), wherein said up-regulation ~~being~~ is carried out by stimulation of a cellular population comprising hematopoietic CXCR4⁺ and CXCR4^{-/low} stem cells that have the potential to express CXCR4 on the cell surface, with a suitable agent, thus converting the CXCR4^{-/low} into CXCR4⁺ cells, and sorting out those CXCR4⁺ stem cells that migrate in response to SDF-1, wherein the CXCR4^{-/low} stem cells are stimulated for up to five days with a suitable agent capable of converting CXCR4^{-/low} into CXCR4⁺ stem cells, thus converting the CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, and wherein said suitable agent is selected from the group consisting of a lectin, a cytokine, at least one type of mammalian stromal cells, and mixtures thereof, said cytokines and stromal cells being cytokines and stromal cells involved in a process of maintenance, expansion, development, or combinations thereof, of stem cells.

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126 (Previously presented). The method according to claim 125, wherein the CXCR4^{-/low} stem cells are stimulated with said suitable agent for 1-2 days.

127 (Cancelled).

128 (Previously presented). A method in accordance with claim 123, wherein said suitable agent is selected from the group consisting of SCF, IL-1, IL-6, IL-11, GM-CSF, and mixtures thereof.

129 (Previously presented). The method according to claim 123, wherein said suitable agent is a member selected from the group consisting of SCF and a mixture of SCF and IL-6.

130 (Previously presented). A method in accordance with claim 125, wherein said suitable agent is selected from the group consisting of SCF, IL-1, IL-6, IL-11, GM-CSF, and mixtures thereof.

131 (Previously presented). The method according to claim 125, wherein said suitable agent is a member selected from the group consisting of SCF and a mixture of SCF and IL-6.